

Pessimism and behavioural signs of depression in East versus West Berlin

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Abstract

Quantified behavioural signs of depression in relation to pessimism across cultures. First, by observing workmen in 1985 East and West Berlin bars, we found more behaviour consistent with depression in East Berliners than in West Berliners. We then measured pessimism in both cultures by assessing explanatory style in newspaper reports of the 1984 Winter Olympic Games. Despite having more Olympic victories to report, East Berlin newspaper accounts were more pessimistic than West Berlin reports. We suggest that, with proper controls, convergent measurements of explanatory style and behavioural signs consistent with depression allow to quantify pessimism and depression across culture and time.

INTRODUCTION

Can cultural groups, as opposed to individuals, be distinguished by their pessimism and depression? Such a comparative study would have to control for variables which might themselves influence pessimism and depression, such as place, time, weather, government, and wealth. Therefore we chose as cultural groups East and West Berlin still separated by the wall.

Our analysis of pessimism and depression was guided by the reformulation of the learned helplessness theory of depression (Abramson, Seligman and Teasdale, 1978; see also Abramson, Metalsky and Alloy, 1989). In these accounts *individuals* are suggested to have a habitual style of explaining events that happen to them and that three dimensions of these explanations mediate depressive symptoms. Events

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can be explained by causes which are stable or unstable over time, global across situations or specific to a particular one, and internal or external to the individual. In theory, individuals who attribute negative events to stable, global, internal causes, and positive events to unstable, specific, and external causes will expect comparatively more bad events in the future and across situations, and depressive symptoms are likely to be long-lasting and far-reaching. Such 'pessimists' will also be prone to self-blame and low self-esteem.

For example, 'worthlessness' is a pessimistic explanation for failure because worthlessness abides (stable), hurts in many situations (global), and is something about me (internal). 'My adversaries' bad luck' is a pessimistic explanation for success because bad luck is transient (unstable), helps in few situations (specific), and is something about others (external). In contrast, 'my adversaries' good luck' is an optimistic explanation for failure and 'talent' is an optimistic explanation for success.

The use of a pessimistic explanatory style is reliably associated with depression (Sweeney, Anderson and Bailey, 1986). Following failure, individuals with a pessimistic style become more depressed than individuals with an optimistic style (Peterson and Seligman, 1984; Metalsky, Halberstadt and Abramson, 1987). In children and young adults a pessimistic explanatory style precedes later depression (Nolen-Hoeksema, Girgus and Seligman, 1986) and among life insurance sales agents it predicts who will quit and have low productivity (Seligman and Schulman, 1986).

There are two techniques used to measure explanatory style. Most common is the Attributional Style Questionnaire or 'ASQ' (Peterson, Semmel, von Baeyer, Abramson, Metalsky and Seligman, 1982), in which the individual generates and quantifies causes for hypothetical events. The causes are rated on a scale from one to seven for stability, globality, and internality. Explanatory style is then determined by averaging the ratings across the causal statements.

Because it is impossible for some individuals to answer questionnaires, Peterson, Luborsky and Seligman (1983) developed the CAVE technique (Content Analysis of Verbatim Explanations) which allows for the analysis of explanatory style in texts, such as therapy transcripts, diaries, and newspaper reports (Zullo, Oettingen, Peterson and Seligman, 1988). Every statement that begins with 'because', 'since', 'as a result of', etc., is extracted from the document, intermixed with statements from other sources, and given to raters blind to the source of the material. The statements are then scored and explanatory style determined in the same manner as the ASQ. The interrater reliability is high (Cronbach's α : 0.80 to 0.95).¹

The CAVE technique yields the typical relationship between explanatory style and depression (Peterson, Bettes and Seligman, 1985). Pessimistic explanatory style extracted from therapy transcripts of a single patient predicted later shifts to depression; non-depressive style predicted later shifts away from depression (Peterson

¹ Explanatory style is usually presented by the 'composite' index, which is the sum of all three dimensions (stable, global, and internal) computed separately for good and bad events. There is a second index, however, which considers the sum of the stable and global dimensions without the internal dimension. This score measures how an individual projects good and bad events over time and situations. So, it should predict the *generality* of behavioural symptoms of depression (see Abramson *et al.*, 1989; Metalsky *et al.*, 1987). By including the internal/external dimension, moreover, the composite measurement should predict depressive symptoms *plus* self-reports of self-esteem since, in theory, self-esteem loss is more likely to occur if a person explains bad events in an internal and good events in an external way (Abramson *et al.*, 1978, 1989).

et al., 1983). Explanatory style extracted from interview material and open-ended questionnaires significantly correlated with, and predicted, psychological and physical health among women who lived through the great depression (Seligman and Elder, 1986), and among members of Harvard classes from 1939–1944 (Peterson, Seligman and Vaillant, 1989).

All previous work on explanatory style has focused on individuals. In the present study, we chose material from different cultural groups. We speculated that the relationship between an individual's explanatory style and symptoms of depression would hold for groups as well. However, to interpret such a relationship we would need to rule out third variables like location, weather, and background. There are several possible methods to test the reformulation of the learned helplessness theory of depression in individuals, including (1) correlational studies (see Sweeney *et al.*, 1986); (2) longitudinal studies in which depression can be predicted when both variables are measured repeatedly over time (e.g. Nolen-Hoeksema *et al.*, 1986); and (3) experiments in which explanatory style and negative events are manipulated. Depressive symptoms are then assessed as dependent variable (for a selective review see Peterson and Seligman, 1984).

Since the first two techniques do not control for third variables, experiments seem to be an ideal way to investigate the effects of explanatory style on depression. It is impossible, however, to assign cultures randomly to manipulations that change explanatory style. A viable alternative, however, is to choose two cultures matched with respect to all third variables (e.g. gene pool, cultural background, language), except for one critical variable that is expected to affect explanatory style. Differences in explanatory style and its consequences could then be interpreted as stemming from the variable that distinguishes the two groups.

Where are two cultural groups for whom most third variables are held constant, and who differ in but one critical variable? At the time of investigation (1985) an example of such a setting was East and West Berlin separated by the wall. They shared the same dialect, geographic location, and background. Thus almost all third variables which might affect explanatory style were matched save one central variable: the political system since 1945 and its various consequences. If cross-cultural differences in depressive signs existed, we could predict differences in explanatory style: The culture with more depressive signs should also show more pessimism.

STUDY 1: BEHAVIOURAL SIGNS OF DEPRESSION IN EAST AND WEST BERLIN WORKMEN

A straightforward way to measure depression in East and West Berliners would be to give depression inventories to randomly sampled individuals in matched parts of the city. Another direct method would be to compare the prevalence of depressive disorders and suicide. We could use neither of these strategies in 1985. Therefore we measured behavioural signs consistent with depression for East and West Berliners in bars where workmen get together. We observed signs of expressiveness versus withdrawal, cheerfulness versus sadness and anxiety versus confidence in facial and bodily behaviour.

Method

Subjects and setting

Our settings were 'Kneipen', places where people meet and drink, similar to English 'pubs' and American 'bars'. We randomly chose 31 Kneipen (14 in West Berlin and 17 in East Berlin) in industrial areas, where workmen drink beer after work. We matched East and West Berlin bars for social class (workmen), kind of work (industry) and sex of the patrons (male), and observations were made during the same weather conditions. The areas were physically adjacent, separated only by the wall. In total, we observed 24 persons in West Berlin and 55 persons in East Berlin. In order to avoid a seasonal or 'holiday' effect, the observations were conducted within 5 weekdays of one week.

Behavioural measurements

We observed behavioural signs consistent with depression (Efron, 1941; Ekman and Friesen, 1969, 1974, 1975) and negative thought (Riskind, 1983). Specifically, we measured (1) facial expression (mouth upward versus downward); (2) posture (slumped versus upright); (3) body (protected by the arms versus exposed); (4) number of illustrators (intentional hand movements illustrating the conversation) and number of emblems (hand movements of definite meaning, e.g. thumbs down); (5) number of self-adaptors (small adjustment movements, e.g. scratching one's head, biting one's nails); and (6) number of smiles and number of laughs.

Slumped posture is associated with negative thought (Riskind, 1983), and fewer illustrators are related to more depression (Ekman and Friesen, 1974). Sad face and lack of mirth are two other common signs of depression (Beck, 1967). One characteristic of a sad face is a mouth with the corners bent down (Ekman and Friesen, 1975). Another indicator of sadness versus cheerfulness is the number of smiles (Ekman and Friesen, 1975).

The behavioural items were classified in the following manner: *Mouth* upward (the corner of the mouth is in line with mouth or curved upward); mouth downward (the corner of the mouth is bent lower than the line of the mouth); *posture* upright (shoulders are straight and held back); posture slumped (shoulders are curved to the front of the body); exposing the *body* (arms are open and do not shelter the front of the body); protecting the body (the arms are folded or cover the front of the body); *illustrator* (each hand movement initiated to illustrate the conversation); *emblem* (each hand movement initiated to signify a certain meaning); *self-adaptor* (each initiation of a self-focused hand movement); constant self-adaptor (self-adaptor movement during the whole five-minute period, e.g. to keep scratching one's head); *smiling* (the corners of the mouth are drawn back and upwards); *laughing* (the mouth is drawn back, the head shakes and the person vocalizes 'Ha, Ha').

As a check on reliability, the original observer and a trained psychologist independently scored the behaviour of 21 subjects in a similar setting in Munich. Interrater reliability was high (agreement for mouth up, $r = 1.0$; body up, $r = 1.0$; body exposed, $r = 0.86$; illustrators, $r = 0.92$; emblems, $r = 0.96$; self-adaptors, $r = 0.95$; smiles, $r = 0.90$; laughs, $r = 0.91$).

Procedure

The observer walked into a bar and seated herself in a free corner with a good view. She chose as a subject the nearest person whom she could watch without affecting his behaviour. After assessing the subject's facial expression and posture for 10 seconds, the observer counted the number of illustrators, emblems, self-adaptors, smiles and laughs. After five minutes, the observer chose the next nearest person, who was not a member of the former group².

Results and discussion

People in East Berlin Kneipen showed comparatively more behavioural signs consistent with depression. In West Berlin, the majority of observed men showed upward turned mouths (69 per cent) and 50 per cent had upright (as opposed to slumped) posture. But only 23 per cent of those in East Berlin had their mouths turned upwards, $\chi^2(1, N = 70) = 12.0, p < 0.001$, and only 4 per cent had their bodies upright, $\chi^2(1, N = 74) = 19.5, p < 0.001$. Eighty per cent of the West Berlin workmen, but only 7 per cent of the East Berlin workmen had their bodies exposed, $\chi^2(1, N = 76) = 39.3, p < 0.001$ (Figure 1)³.

The patrons in West Berlin also used more illustrators and emblems during the five-minute observation period than the East Berlin patrons ($M = 10.4$ versus 2.8), $F(1,77) = 9.5^4, p < 0.003$. Although East Berlin patrons showed comparatively more self-adaptor movements ($M = 4.0$ versus 2.9), this difference did not reach significance, $F(1,71) = 1.2, ns$. Interestingly continual self-adaptor movements were observed in six East Berliners, but in no West Berliner. Finally, West Berlin workmen smiled and laughed significantly more often than East Berlin workmen ($M = 5.3$ versus 2.0), $F(1,77) = 10.5, p < 0.002$ (Figure 2)⁵.

STUDY 2: EAST AND WEST BERLIN NEWSPAPER REPORTS

Based on these results, we should find more pessimistic explanatory style in East Berlin than in West Berlin. But how can we measure explanatory style in East and West Berlin? Ideally, we would want to give questionnaires or interviews to a representative sample of East and West Berliners. Since the political situation at the time of the study did not allow us to apply these methods, we decided to analyse written material that was publicly available. This material had to meet three prerequisites. First, it had to address the same topic. Second, the topic had to be of similar interest

² Group size was assessed. There were no significant differences between the group sizes in East and West Berlin bars. Patrons sitting alone, not interacting with other people in the Kneipe: East Berlin 15 per cent of the subjects, West Berlin 17 per cent of the subjects. Patrons interacting in a dyad: East Berlin 43 per cent of the subjects, West Berlin 34 per cent of the subjects. Patrons interacting in a triad or larger group: East Berlin 42 per cent of the subjects, West Berlin 49 per cent of the subjects.

³ When the behaviour could not clearly be categorized, a missing value was coded. There are nine missing values for mouth up, five for body up and three for body exposed.

⁴ Because of outliers, the *F*-scores were computed for the log-transformed variables.

⁵ It might be argued that the discovered cross-cultural differences stem from a comparatively stronger tendency to socially withdraw in the East Berlin workmen. This is unlikely since East Berlin workmen initiated conversation with the observer comparatively more often and for a longer time than the West Berlin workmen. This was true even in the presence of other strangers sitting at the same table.

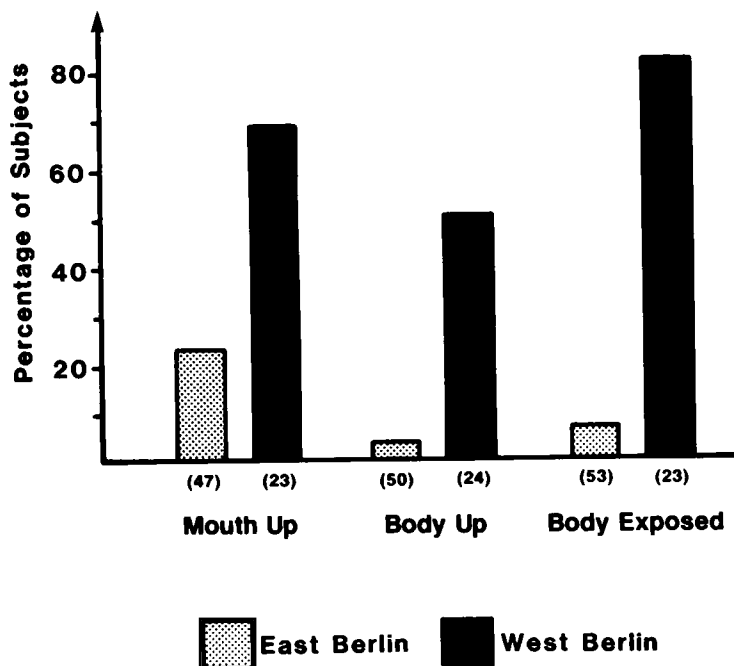


Figure 1. Percentage of East and West Berlin workmen with mouth upward, body in upright position and body exposed. *ns* in parentheses

to both cultures. Third, the events described had to occur at the same time in both cultures.

Method

We assessed explanatory style from newspaper reports of the 1984 Winter Olympic Games. In principle, any material that talks about good and bad events could be used. We chose to use reports of the Olympic Games because it was an event of interest to both East and West Berlin newspapers and thus provided large quantities of material dealing with the same topic.

Both West and East Germany participated in the 1984 Winter Olympics in Sarajevo, Yugoslavia. Our data base was a randomly chosen fifty per cent sample of all available articles from three West Berlin and three East Berlin newspapers. We did not analyse articles reporting Olympic events in which the sampled countries did not participate.

Extracting causal statements

Using the technique of Peterson *et al.* (1983), 381 causal statements (239 from 11 West issues and 142 from seven East Berlin issues) were extracted by a native German speaker and then rated (dichotomously) as good or bad events for the respective country. Neutral events, events that have both good and bad elements or that occur to competitors were not included in the analysis. Events included facts (e.g. we won the race), descriptions (e.g. she smiled all over her face) or emotional expressions

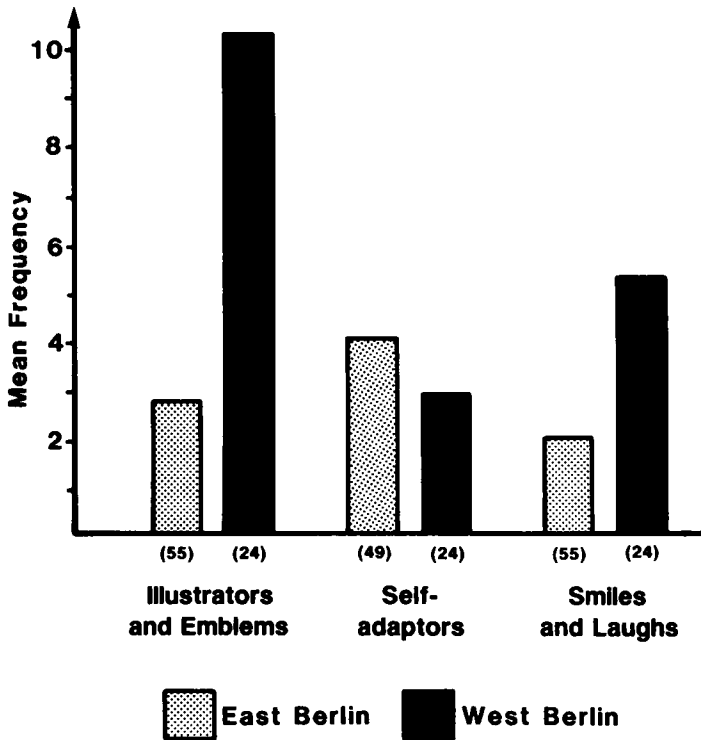


Figure 2. Mean frequency of East and West Berlin workmen's hand and facial gestures. The gesture of 55 East Berlin patrons and 24 West Berlin patrons were observed for five minutes. *ns* in parentheses

(e.g. we were very disappointed). The extracted unit contained a clear causal relationship. The explanation was not merely a description or justification of the event.

Rating

These causal statements were then rated on a one through seven scale for stability, globality, and internality (Peterson *et al.*, 1983; Table 1) and averaged across the three dimensions separately for positive and negative events (composite index). Since the original rater was not blind to the source of the statements, as a check on reliability and bias, a random sample of 105 statements was given to another native German-speaking rater, blind to the source of the sentences. Interrater reliability was 0.84 for stability, 0.71 for globality, and 0.75 for internality.

Results

East and West Berlin reports differed strongly in explanatory style. For *positive events* West Berlin reports had higher composite scores ($M = 12.2$) than East Berlin ones ($M = 10.3$), $t(377) = 3.9$, $p < 0.001$. For *negative events* the composite index did not differ between East Berlin ($M = 8.4$) and West Berlin reports ($M = 8.2$), $t(377) = 0.4$, *ns*. This pattern of results was reflected in a highly significant interaction

Table 1. Examples of pessimistic and optimistic causal explanations in newspaper reports of Olympic Games

Positive events	Typical optimistic explanations	
		Negative events
We are in good spirits because we have greatly improved. sta 5 glo 6 int 7		She could not stand the pace because on this day there was no morning sun to cover the ice with a mirror-like icefilm. sta 1 glo 2 int 1
We are afraid because we just know that we will be stronger than our competitors. sta 5 glo 6 int 5		She fell yesterday because an avalanche of snow from nearby trees covered the visor of her helmet. sta 1 glo 1 int 2
Positive events	Typical pessimistic explanations	
		Negative events
He was lucky because minute by minute the snow got worse. sta 2 glo 3 int 1		The disaster came because she is in such bad shape. sta 5 glo 6 int 6
We succeeded because our competitors had been drinking all night before. sta 1 glo 1 int 1		He had to hold back his tears because his hope for a medal had gone. sta 6 glo 5 int 6

sta = stability: unstable = 1, stable = 7.

glo = globality: specific = 1, global = 7.

int = internality: external = 1, internal = 7.

effect, $F(1,377) = 8.3, p < 0.005$, when a $2(\text{event}) \times 2(\text{culture})$ ANOVA was conducted (Figure 3)⁶.

The stability and globality dimensions

Viewed separately, the stability and globality dimensions showed a similar pattern to the composite index (Figure 4). East Berlin reports were less stable and less global about *positive events* than West Berlin reports; stable: $M = 2.9$ versus $4.0, t(377) = 5.1, p < 0.001$; global: $M = 3.1$ versus $3.6, t(377) = 2.1, p < 0.04$. When explaining *negative events*, East Berlin reports were comparatively more global, $M = 3.5$ versus $2.8, t(377) = 2.6, p < 0.01$. The difference in stability was not significant, $M = 2.5$ versus $2.4, t(377) = 0.06, ns$. Analyses of variance conducted for the stability and globality dimensions showed significant interaction effects; both $F_s(1,377) > 11.0, ps < 0.001$.

The internality dimension

The pattern of results for the internal dimension was different. An analysis of variance did not show a significant interaction effect, $F(1,377) = 0.7, ns$. The main effect of the positive versus negative event factor, however, was highly significant, $F(1,377) = 60.3, p < 0.001$, indicating that positive events ($M = 4.4$) were explained more internally than negative events ($M = 2.8$) in both East and West Berlin reports. In other words, there was no difference between East and West Berlin reports in

⁶ Because of unequal numbers of causal statements in the cells, a regression solution of the analysis of variance was computed for all ANOVAS in the study.

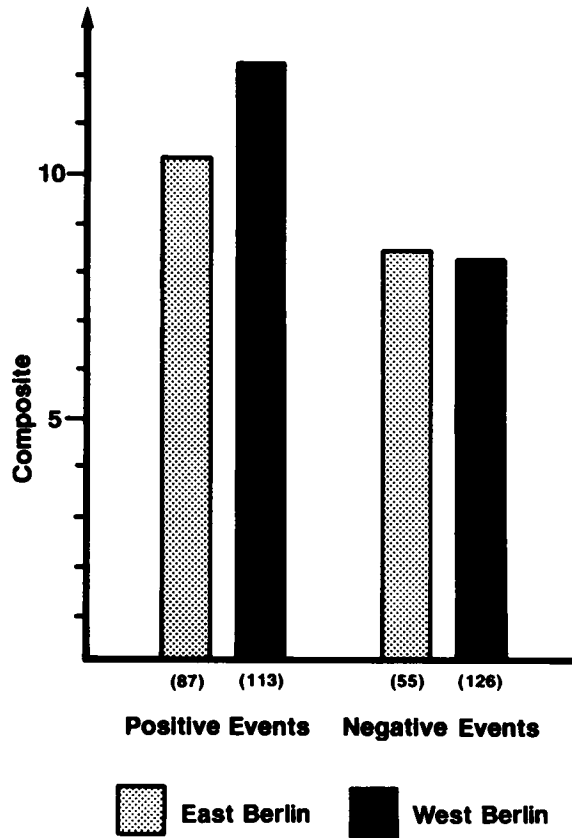


Figure 3. Pessimism in East and West Berlin newspaper reports. Mean values of the composite index explaining positive and negative events. *ns* in parentheses

taking credit for their successes and in avoiding blame for their failures, but both cultures took more credit for good events than they took blame for bad events⁷.

Number of positive and negative events

The percentage of positive and negative events extracted differed for East and West Berlin: 61 per cent of the East Berlin, but only 47 per cent of the West Berlin events were positive, $\chi^2(1, N = 381) = 6.4, p < 0.02$. In this regard, it is worth mentioning

⁷ To see if the patterns of the three dimensions differed significantly, we conducted further analyses of variance that included 'dimension of explanation' as a within factor. The data from the stability and globality dimensions showed a different pattern from the internality dimension. The $2(\text{stable versus internal}) \times 2(\text{East Berlin versus West Berlin}) \times 2(\text{positive versus negative events})$ ANOVA which compared stability and internality showed a significant three-way interaction effect, $F(1,377) = 9.2, p < 0.003$. The same was true for the respective $2 \times 2 \times 2$ ANOVA that compared the globality and internality dimensions, $F(1,377) = 7.9, p < 0.005$. Comparing the stability and globality dimensions by the respective $2 \times 2 \times 2$ ANOVA led to a non-significant three-way interaction effect, $F(1,377) = 0.07, ns$, indicating that there is no difference between the patterns of the stability and globality dimensions. Finally, a significant three-way interaction effect, $F(2,754) = 6.8, p < 0.001$, was observed when a $3(\text{stable, global, internal}) \times 2(\text{East Berlin versus West Berlin}) \times 2(\text{positive versus negative events})$ ANOVA was conducted.

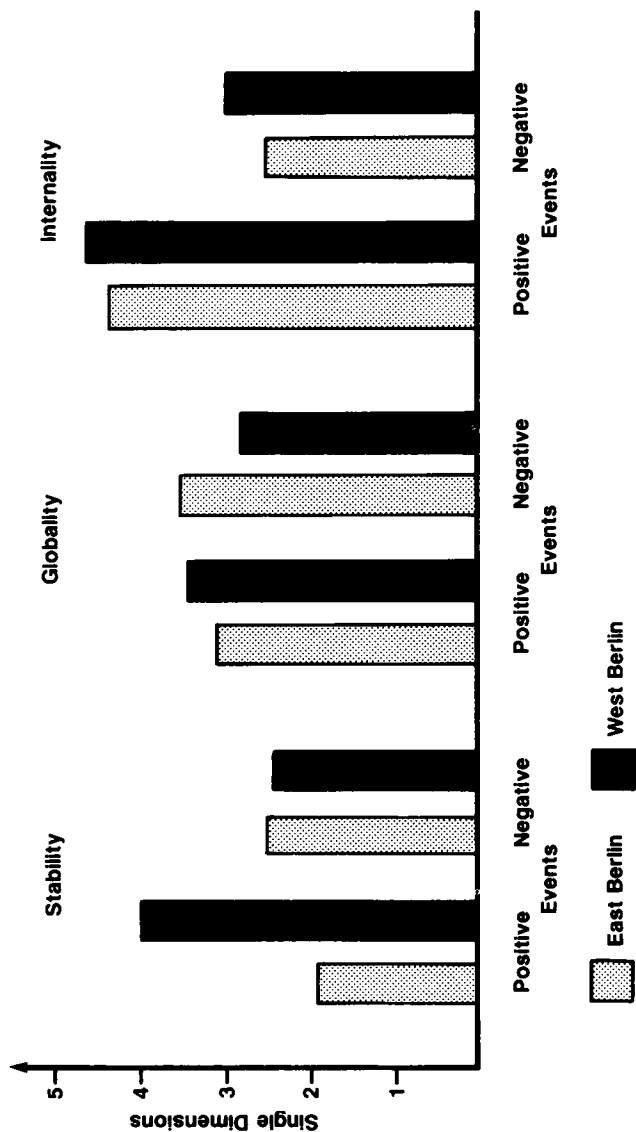


Figure 4. The single explanatory dimensions of causal statements in East and West Berlin newspaper reports. Mean values of the stable, global, and internal dimensions explaining positive and negative events

that East Berlin newspapers had more good events to report: The German Democratic Republic (East Germany) won 24 medals and the Federal Republic of Germany (West Germany) won only four.

Discussion

Two techniques traditionally used to measure differences in depressive behaviour and pessimism in *individuals* were employed to measure such differences in two *cultural groups*. Unlike most cross-cultural research on emotion, we matched the two cultures for location, language, weather, background, and cultural history (until 1945) by choosing East and West Berlin.

Using unobtrusive observational methods we found more depressive signs among 1985 East Berlin than among West Berlin workmen. Using content analysis to measure explanatory style, we found that newspaper reports of the 1984 Winter Olympics were comparatively more pessimistic in tone in East Berlin. These two findings support our hypothesis that groups, as well as individuals, demonstrate the predicted relationship between explanatory style and depression.

Our analysis provides evidence that newspaper reports of only sporting events were more pessimistic in East Berlin than in West Berlin. We suspect, however, that there may be an even greater difference in tone of reports of social, political or economic events since the German Democratic Republic (East Germany) had performed much better in the Olympic Games than the Federal Republic of Germany (West Germany). A possible difference in style of West and East Berlin journalism cannot readily explain the results: Both, state-controlled journalism in East Berlin and consumer-controlled journalism in West Berlin try to please the reader. Rather, a pessimistic tone in news reports may reflect an even more pessimistic explanatory style among East Berliners than West Berliners as individuals.

Since observer bias has been checked, we suggest that there was a measurable difference in depressive signs between the two parts of the city. To conclude, however, that there was overall more depression in the Eastern part of the city would have required convergent measures of depression. Convergent measurements could have been obtained by using the same behavioural measurements in other settings, such as the workplace or the homes, or through other methods or demographic data: suicide rate, diagnosis of depression, number of workdays missed for reasons of depression, amount of alcoholism, and results of randomly given depression inventories.

At this point we cannot know—directionally—if East Berliners were pessimistic and depressed, West Berliners optimistic and non-depressed, or both. We measured only differences between the two groups; we had no absolute or clinical standards of comparison. Also, our data do not tell us if Olympic reports in West Berlin have become more optimistic or those in East Berlin more pessimistic since 1945, but content analysis of sports reports over time would bear on this.

Further, our data do not reveal the causal relations among explanatory style, depressive signs, and political system differences. The political differences between East and West Berlin most likely were responsible for the discovered differences in both explanatory style and depressive behaviour. We can say this because the two evolving cultures stem from one culture separated by political system since 1945. But what aspects of this difference in political systems were responsible is not clear:

Differences in standard of living, bureaucracy, freedom of opinion, and privileges, are all possible.

Russian Prime Minister Mickail Gorbachev (1987) mentioned problems in Russia that may pertain to the observed East Berlin–West Berlin differences. Gorbachev noted economic failures, comparatively lower quality goods, waste and inefficiency, as well as difficulties in the supply of food, housing, and services. It is conceivable that these variables led to comparatively more pessimism and depression in East than in West Berlin; these variables might, by now, be also a consequence of pessimism and depression.

Furthermore, we did not establish a causal relationship *between* explanatory style and behavioural signs of depression. Did explanatory style in the newspapers influence behaviour among the individuals or did the behaviour influence explanatory style in the reports? Or were the different political conditions responsible for both the differences in depressive signs *and* explanatory style?

East and West Berlin separated by the wall

The comparison of East and West Berlin under wall conditions is of special importance since West and East Berliners did not freely choose their cultures but were separated based on where their homes happened to be. Some East Berliners, however, took the risk of leaving their homes. We do not know whether they were optimists or pessimists. In theory, optimistic East Berliners should have expected bad events (e.g. the wall, economic difficulties) to be more temporary and less confining than pessimists. Accordingly, the optimists might have stayed in East Berlin, whereas the pessimists might have opted toward leaving. On the other hand, the optimists, believing the chances of prosperous emigration might be good, may have left East Berlin in greater numbers. Either way it is possible that differential emigration from East Berlin to the West might have contributed to our findings.

There is an additional advantage in comparing East and West Berlin. Because they shared the same background, their verbal and expressive behaviour until 1945 were based on the same conceptions and labels. Thus the linguistic representation of explanatory style before 1945 was — and probably still is — the same for both groups. This also applies to the behavioural manifestation of depressive symptoms (e.g. somatic versus psychological symptoms). Therefore we can assume that we compared explanatory style and depression based on the *same conceptions, labels, and manifestations* in both cultures⁸.

Future possibilities

We see the present studies as preliminary explorations of a new methodology. They explore whether groups, as opposed to individuals, can be meaningfully characterized by their explanatory style as obtained from verbal archival records (e.g. newspaper reports). Because content analysis allows us to determine explanatory style blindly and reliably in archival documents, we asked if such documents yielded coherent

⁸ We refer to East and West Berlin as different ‘cultures’, although we recognize that East and West Berlin were yet developing into two distinct cultures. The two cities had undergone a different history only since 1945, and distinct properties defining a culture (e.g. separate beliefs, arts, morals, laws) may not have all established yet.

indications of valid explanatory style. We found indications of such coherent styles and validated the data set by finding the predicted differences in behavioural signs of depression.

In conclusion, we suggest that convergent measurements of thought and behaviour of the unobtrusive sort used in these studies may allow for the investigation of pessimism and depression not only among individuals, but also between cultures. Our basic premise that a culture's pessimism and signs of depression covary could also be tested longitudinally by focusing on one culture with a changing critical variable. Again, history offers an opportunity for such a project. The political circumstances in East Berlin are on the verge of being modified. Both, pessimism and behavioural signs of depression should follow thereafter.

REFERENCES

- Abramson, L. Y., Metalsky, G. J. and Alloy, L. B. (1989). 'Hopelessness depression: A theory-based subtype of depression', *Psychological Review*, **96**: 358–372.
- Abramson, L. Y., Seligman, M. E. P. and Teasdale, J. D. (1978). 'Learned helplessness in humans: Critique and reformulation', *Journal of Abnormal Psychology*, **87**: 49–74.
- Beck, A. T. (1967). *Depression: Clinical, Experimental, and Theoretical Aspects*, Harper & Row, New York.
- Efron, D. (1941). *Gesture and Environment*, King's Crown, New York. (current edn) (1972). *Gesture, Race and Culture*, Mouton, The Hague.
- Ekman, P. and Friesen, W. V. (1969). 'The repertoire of nonverbal behavior: categories, origins, usage, and coding', *Semiotica*, **1**: 49–98.
- Ekman, P. and Friesen, W. V. (1974). 'Nonverbal behavior and psychopathology'. In: Friedman, R. J. and Katz, M. M. (Eds) *The Psychology of Depression: Contemporary Theory and Research*, John Wiley, New York, pp. 203–224.
- Ekman, P. and Friesen, W. V. (1975). *Unmasking the Face: A Guide to Recognizing Emotions from Facial Expressions*, Prentice-Hall, Englewood Cliffs, N.J.
- Gorbachev, M. (1987). *Perestroika*, Harper & Row, New York.
- Metalsky, G. I., Halberstadt, L. J. and Abramson, L. Y. (1987). 'Vulnerability to depressive mood reactions: Toward a more powerful test of diathesis-stress and causal mediation components of the reformulated theory of depression', *Journal of Personality and Social Psychology*, **52**: 386–393.
- Nolen-Hoeksema, S., Girgus, J. S. and Seligman, M. E. P. (1986). 'Learned helplessness in children: A longitudinal study of depression, achievement, and explanatory style', *Journal of Personality and Social Psychology*, **51**: 435–442.
- Peterson, C., Bettes, B. A. and Seligman, M. E. P. (1985). 'Depressive symptoms and unprompted causal attributions: Content analysis', *Behavioral Research Therapy*, **23**: 379–382.
- Peterson, C., Luborsky, L. and Seligman, M. E. P. (1983). 'Attributions and depressive mood shifts: A case study using the symptoms-context method', *Journal of Abnormal Psychology*, **92**: 96–103.
- Peterson, C. and Seligman, M. E. P. (1984). 'Causal explanations as a risk factor for depression: Theory and evidence', *Psychological Review*, **91**: 347–374.
- Peterson, C., Seligman, M. E. P. and Vaillant, G. E. (1988). 'Pessimistic explanatory style is a risk factor for physical illness: A thirty-five-year longitudinal study', *Journal of Personality and Social Psychology*, **55**: 23–27.
- Peterson, C., Semmel, A., von Baeyer, C., Abramson, L. Y., Metalsky, G. I., and Seligman, M. E. P. (1982). 'The Attributional Style Questionnaire', *Cognitive Therapy and Research*, **6**: 287–299.
- Riskind, J. F. (1983). 'Nonverbal expressions and the accessibility of life experience memories: A congruence hypothesis', *Social Cognition*, **2**: 62–86.

- Seligman, M. E. P. and Elder, G. H. (1986). 'Explanatory style across life span: Achievement and health'. In: Sorenson, A., Weinert, F. E. and Sherrod, L. (Eds) *Learned Helplessness and Life-Span Development*, Erlbaum, Hillsdale, N.J., pp. 377–427.
- Seligman, M. E. P. and Schulman, P. (1986). 'Explanatory style as a predictor of productivity and quitting among life insurance sales agents', *Journal of Personality and Social Psychology*, **50**: 832–838.
- Sweeney, P. D., Anderson, K. and Bailey, S. (1986). 'Attributional style in depression: A meta-analytic review', *Journal of Personality and Social Psychology*, **50**: 974–991.
- Zullo, H., Oettingen, G., Peterson, C. and Seligman, M. E. P. (1988). 'Pessimistic explanatory style in the historical record: Lyndon B. Johnson, Presidential Election, and East vs. West Berlin', *American Psychologist*, **43**: 673–682.